

Appl. No. 09/703,419
Amdt. Dated April 22, 2005
Reply to Office Action of February 24, 2005

IN THE CLAIMS:

1. (Currently Amended): A method for automatically framing and tracking an object of interest using a video camera associated with integrated into a hand-held processing device, devices including PDAs, mobile telephones, palmtops, and portable computers to insure stability of the image content as a user manipulates the device, the method comprising the steps of:

providing said video camera with a wide field of view;

10 continuously detecting relative movement between the hand-held device and the object of interest within a displayed image generated by said camera; and

15 continuously electronically adjusting at least one setting of the camera camera, without use of a motor, in response to the detected relative movement, so as to maintain a desired framing and tracking of the object of interest within an image and/or successive images images, as long as the image or images remain in the field of view generated by the camera for selectively providing either one of a still picture of the object or video image of the object, respectively. respectively, for providing a stable image in the presence of movement of a user's hand holding said device.

2. (Canceled).

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3. (Canceled).

4. (Currently Amended): The method of claim 1 wherein the camera comprises a is physically adjustable camera by a user.

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5. (Canceled).

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6. (Currently Amended): The method of claim 1 wherein the camera has one or more of an solely electronically adjustable pan setting, an adjustable tilt setting, and an adjustable zoom setting, performed without use of a motor.

5 7. (Canceled).

8. (Canceled).

9. (Canceled).

10 10. (Currently Amended): The method of claim 4 1, wherein the camera setting is adjusted said step of continuously electronically adjusting the camera is based at least in part on an output of an orientation determination device integrated into or otherwise associated with the hand-held device. device, for detecting relative movement between said device and an object of interest caused by movement of a user's hand.

11. (Original): The method of claim 10 wherein the orientation determination device comprises one or more gyroscopes integrated into the hand-held device.

20 12. (Currently Amended): The method of claim 4 1, wherein the camera setting is adjusted said step of continuously electronically adjusting the camera is based at least in part on an output of an image processing operation applied to an image generated by the camera.

25 13. (Currently Amended): The method of claim 4 1, wherein said step of continuously electronically adjusting the camera setting is adjusted is based at least in part on a hybrid combination of an orientation determination operation and an image processing operation.

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14. (Currently Amended): An apparatus for automatically framing and tracking an object of interest, the apparatus comprising:

a hand-held processing device including PDA's, mobile telephones, palmtops, and portable computers, having at least one video camera associated therewith, integrated therein, the hand-held device further comprising a processor operative to continuously monitor the detection of relative movement between the hand-held device and the object of interest, due to movement of a user's hand holding said device, said processor being responsive to the detected relative movement for adjusting continuously solely electronically adjusting, without use of a motor, at least one setting of the camera so as to continuously maintain a desired framing of the object of interest within an image generated by the camera as a user manipulates the device, for providing a stable image.

15. (Currently Amended): An article of manufacture comprising a storage medium for storing one or more programs for tracking an object of interest using at least one video camera having associated with integrated into a hand-held processing device, including PDA's, mobile telephones, palmtops, and portable computers, wherein the one or more programs when executed by a processor implement the steps of:

detecting relative movement between the hand-held device and the object of interest; and

adjusting solely electronically, without use of a motor, at least one setting of the camera, in response to the detected relative movement, so as to maintain a desired framing of the object of interest within an image generated by the camera, for providing a stable image.